

concluded that there is no general appreciation of its great significance. One may hardly find a history of the United States that does not give an introductory account of the early Indians; and yet it is safe to say that they are of less importance in forming an understanding of our historic progress than the work of the old glaciers is in gaining a conception of our geography. The moraines and drumlins, the kames and sand-plains, the lakes, falls, and gorges, the gravel-filled and terraced valleys that characterize the northern glaciated country, are, to be sure, relatively small topographic forms; but they are forms on which we live, and which we daily see around us. It is proper that they should be introduced to public notice; and Professor Wright's book will certainly aid in calling attention to them, particularly if his readers go further than his text, and follow up his footnotes, through which they will be led to the most important discussions on these subjects. Look, for example, at the illustration of a new river-course marked by a waterfall, or of an old river-course blockaded into a lake, both of these excellent views being copied from Chamberlin and Salisbury's invaluable essay on the driftless area of Wisconsin; or at the strongly marked morainic wall of the Kettle range in Wisconsin, taken from one of Chamberlin's reports; or at the extraordinary loops of the moraines in Minnesota and Dakota, taken from Upham's and Todd's figures; or at the drumlins reproduced from Hitchcock's report on New Hampshire; or at the map of the kames of Maine by Stone. All of these are not only valuable illustrations of highly significant topographic forms, they are also tempting suggestions towards study of the original sources on which Professor Wright has drawn freely in preparing his book. The same may be said of numerous quotations, often extended over a page or more, from the writings of those who have given us the best interpretations of glacial geology. There are extracts from Gilbert's and Pohlmann's papers on the recession of Niagara Falls; Winchell's account of the post-glacial recession of the Falls of St. Anthony; Upham's description of Lake Agassiz, now the great wheat-growing plain of Minnesota and Dakota; Claypole's suggestive although rather highly deductive account of the temporary lakes marginal to the retreating ice-sheet; Newberry's studies on pre-glacial drainage; and many more. The thoughtful reader of all this will perceive something of the long growth of the present belief in glacial geology, and of the efforts of the many workers who have so greatly contributed to its understanding. Professor Wright's own observations on the margin of the glaciated tract are of course also described.

Among the questions on which the conclusions favored by the author are most likely to find dissent with some investigators are the date and duration of the glacial period, and the ice-dam at Cincinnati, by which the Ohio was blocked into a great lake. The objections to the latter theory are not so much on account of its inherent improbability as because the effects and products of such a lake have not been as yet clearly enough seen to require a moderate sceptic to admit its existence. It is natural enough for Professor Wright to feel a paternal fondness for this idea, which he originated some years ago, and look with favor on facts that point towards it; but, before it can command general acceptance, it must be examined in the light of a broader view of the evolution of rivers and of the various changes to which they are subject. It does not seem as if this broader view has been attained, for it is said that the Ohio has been at work on its present valley from the first elevation of the continent to glacial time, that is, through all mesozoic and nearly all cenozoic time; while it must be apparent to the student of river history that the present valley of the Ohio is of by no means so great an age. The water-worn pebbles on high land in West Virginia have relatives in similar deposits in Tennessee, outside of the hypothetical Ohio lake. The terraces of western Pennsylvania are not described in such a way as to make it clear that they are of lacustrine and not of fluvial origin. The case had best stand open yet for a time till further facts are developed.

The date of the glacial period commonly alluded to, as determined by such post-glacial river-gorges as the Niagara, is rather the date of a somewhat late phase in the disappearance of the ice. How long a time elapsed from the maximum advance of the ice to the beginning of work on the gorge is not now determinate. The

unknown factors in this problem are very numerous, and they will require much labor in their definition. Prominent among these is the time-interval between the various terminal moraines and drift margins; and in this question, Wright differs from the conclusions of Chamberlin, McGee, and Gilbert, as to the division of the glacial period into two distinctly separate epochs, and regards the whole period as essentially single and continuous. Extracts are given from the writings of the above-named investigators; but the reader will do well to consult the original essays, as the discussion is rather intricate. Here, as in the case of the ice-blocked Ohio, it appears to me that Professor Wright does not sufficiently consider other arguments than those of strictly glacial geology. The evidence of topographic development, as adduced by Chamberlin and McGee, particularly needs further examination.

On these larger questions, it is to be hoped that an open mind can be maintained for some years to come. It is only by regarding them as settled that the student may be unwisely guided. The treatment of the smaller subjects, such as those of which many examples have been named above, will prove instructive to many readers.

W. M. D.

An Elementary Treatise on Mechanics. Part I. Statics. By ISAAC WARREN. London and New York, Longmans, Green, & Co. 16°. \$1.

THIS is a compact and well-arranged little volume, intended for the use of schools and students in universities. It is the first part of a work on mechanics, the second part of which will treat of dynamics, under which term the author includes kinematics and kinetics. The work follows to a great extent the same lines as those of the same author's elementary treatise on plane trigonometry, and is especially rich in exercises,—a feature which ought to recommend it to teachers. As additional exercises, a series of ten examination-papers proposed in Trinity College, Dublin, are annexed to the volume, and a note on the order of lever to which the oar belongs. This latter, though a clever thing in itself, and well adapted to develop certain faculties of the youthful mind, might well be omitted in a text-book.

Steam Engine Design. By JAY M. WHITHAM. New York, Wiley. 8°. \$6.

MECHANICAL engineers, students of engineering, and draughtsmen will find this a book well adapted to their requirements, and it will not be without value to any person interested in mechanical engineering as a profession. Its author was at one time assistant engineer in the United States Navy, and is now professor of engineering in the Arkansas Industrial University. The work treats of the application of the principles of mechanics to the design of the parts of a steam-engine of any type or for any duty, and also of auxiliary attachments and constructive details. The best and most approved engineering practice, evidently, has been drawn upon freely for the examples with which the book abounds; and the illustrations, of which there are a profusion, are, with one or two exceptions, excellent specimens of the engraver's art.

The more general elements pertaining to steam-engine practice, such as types of engines, clearance, piston speed, friction, fuel, weight of parts, and radiation of heat, are discussed in a brief introduction, after which pistons, slide-valves, and valve and reversing gears receive a chapter each. A separate chapter is devoted to the steam-chest, stuffing-box, link, eccentric, etc. A description of the principles of the compound and triple-expansion engines is condensed into one chapter, though the growing importance of this branch of the subject would seem to warrant a more extended and detailed treatment of it. After a brief chapter on indicator-diagrams of a compound engine, a chapter each is given to crank-effort diagrams, the relation of friction to the turning-power of the engine, the piston-rod and its cross-head and guides, the connecting-rod, and the crank-pin. Then comes a long and full chapter on crank-arms, crank, line and propeller shafts, bearings, and couplings; one on condensers and pumps; and one on the engine-frame, pillow-blocks, reversing-engines, walking-beams, etc. The screw-propeller and paddle-wheels, both radial and feathering, are treated of in the final chapter; and a short appendix is devoted to the strength of materials and a saturated-steam table.

The volume contains 210 illustrations, many of which are folding inserts. A very full and well-arranged index fittingly completes the work.

AMONG THE PUBLISHERS.

ROADS and road-making are ably discussed by Capt. Francis V. Greene in the supplement to *Harper's Weekly* for Aug. 10.

— J. B. Lippincott Company will soon publish Mr. George W. Childs's "Recollections," parts of which have appeared in *Lippincott's Magazine*.

— Macmillan & Co. will publish in September a revised edition of Bryce's "American Commonwealth." It is said that ten thousand copies of this work have been sold in the United States.

— *Wood's Medical and Surgical Monographs* for September will contain a practical work on the art of embalming, something unique in our medical literature.

— A. Lovell & Co., 3 East 14th Street, New York, will publish early in September a volume on the "Honors of the Empire State in the War of the Rebellion," by Thomas S. Townsend, the compiler of the well-known "Library of National Records."

— Thomas Whittaker will publish at once a new revised and enlarged edition of King's "Classical and Foreign Quotations." The first edition was exhausted three months after its appearance, and the author has been engaged on the revision since that time.

— A lady in one of the New England towns recently returned a copy of Robert Louis Stevenson's story "The Wrong Box" to her bookseller, for the reason that the cover was "defaced by a newspaper scrap, which, although I have applied soap and water, I have been unable to remove." So much for an attempt at novelty in book-making.

— Henry Holt & Co. have in hand a second "History of the United States," the manuscript of which was left with them ready for the press by the late Professor Johnston of Princeton. It was written on a plan somewhat similar to that of his already well-known text-book, but suited to a shorter course, and perhaps to less mature minds.

— The historical treatise on Columbus, for which a prize has been offered by a Spanish commission, must be delivered to the secretary of the Royal Academy of History, at Madrid, before the 1st of January, 1892. Works written in Spanish, Portuguese, English, German, French, or Italian, may enter the competition. The two prizes amount respectively to \$5,700 and \$2,895; each of the two successful authors receiving, besides, five hundred copies of his work.

— The New Haven Colony Historical Society will publish at once a compilation of the inscriptions in the old Milford graveyard prior to 1800. The transcription will be literal, the type being varied to represent as nearly as possible the appearance of each stone. The work will fill seventy pages, and will be illustrated by facsimiles of seventeen of the most interesting stones. Genealogical notes by Mr. Nathan G. Pond, the transcriber, will be included.

— The Worthington Company have secured for America an edition of the supplementary new volumes of the Villon Society's renowned version of "The Book of the Thousand Nights and One Night." The Arabic text of two favorite stories in the collection — "Aladdin; or, The Wonderful Lamp," and "Zeyn Al Asnam and the King of the Genii" — has at last been discovered in a manuscript recently purchased by the Bibliothèque Nationale at Paris.

— Scribner & Welford have just issued the sixth volume of the Henry Irving Shakspeare, which was delayed by the illness of the editor, Mr. Frank A. Marshall. This volume contains the plays of "Othello," "Antony and Cleopatra," "Coriolanus," and "King Lear." A prefatory note explains that it was intended to print "Hamlet" here instead of one of the four plays given, but that the revision of the proofs had not been finished when Mr. Marshall's health broke down. Two new artists are represented here, the illustrations to "Antony and Cleopatra" being by Mr. Maynard Brown, and those to "Coriolanus" by Mr. W. H. Margetson. The

introductions have been written by Mr. Joseph Knight and Messrs. Wilson Verity and Arthur Symons.

— Mr. Lodge's volumes on Washington, recently published in the series of American statesmen, have been warmly praised by many critics, but perhaps the most valued approval is that from the Nestor of American historians, Hon. George Bancroft, who writes to the publishers as follows: "I like your new work on the unique man of the last century exceedingly. It is written independently, as well as with a full sense of the unique greatness of Washington. You did your part nobly, and gained honor and a claim to gratitude by publishing so valuable a volume."

— The author of "Micah Clarke," the historical novel recently published by Longmans, Green, & Co., is an English physician who is only thirty years old, and who has been a writer of magazine stories for ten years past. Dr. A. C. Doyle is a tall, athletic young man, who not only attends to a good practice and writes novels, but is a famous cricketer. He has, moreover, seen service on the West African coast, and has roughed it in a whaler. He is a nephew of Richard Doyle, the *Punch* artist, and illustrator of "The Newcomes."

— The Worthington Company, in addition to the announcements already made, are preparing the following books for the fall. First in importance is a new edition of "Taine's English Literature," with an introductory essay by Richard H. Stoddard, which enables them to copyright the book. "The Memoirs of the Count de Grammont" will be brought out as a holiday publication with photogravures and portraits. There will also be *éditions de luxe* of Macaulay's "Lays of Ancient Rome" and Main's "Treasury of English Sonnets."

— D. C. Heath & Co. have just published "Modern Facts and Ancient Fancies in Geography," a handbook for teachers, by Jacques W. Redway. This book will treat the subject in the light of modern science, and suggest some new methods of teaching this much-abused subject. They have also just ready "Topics in Geography," by W. F. Nichols. This is not a text-book, but a specific course, a systematic enumeration of the items or classes of items to be taught in each of the grades, with something of the methods of presentation, all built upon the general plan of language-work done in our schools. The "topics" have been prepared for seven grades, beginning with the lowest.

— Mr. C. H. Lee of Leesburg, Va., great-grandson of the eminent statesman Richard Henry Lee, is, according to a correspondent of the New York *Evening Post*, engaged in writing the memoirs of his illustrious ancestor. Mr. R. H. Lee was the friend of Patrick Henry, and in warm concurrence with him in disdain of the acts which led to the war of the Revolution. The Tory party had pronounced him a "political demagogue," but those on the other side, approving his resistance to oppression, hailed him as the "young reformer." The "Life and Correspondence" of R. H. Lee was published in 1829 by his grand-nephew, but the forthcoming work by a direct descendant will probably be fuller and more complete.

— A study of animal life and character is contributed by Olive Thorne Miller to the September *Popular Science Monthly* in the shape of a description of a pet lemur which the author possessed, and which represents a group of animals closely allied to the monkeys. The tariff question is discussed from a novel point of approach by Mr. Huntington Smith in "The Ethical View of Protection." The author lays down his points with considerable skill; and his article, which it is fair to say is adverse to the principle of protection, commends itself to the attention, if not to the acceptance, of readers of every shade of opinion. The number will contain an essay on the "Origin of the Rights of Property," by Henry J. Philpott. The author compares the views of a number of writers on the subject, points out wherein he thinks they are wrong, and draws his own bold and independent conclusion that the recognition of private ownership was in the beginning a truce in the war against its exercise by others. A paper by Professor Huxley bearing directly on the question involved in the recent discussion between himself and the Rev. Dr. Wace, concerning the genuineness of miracles, and entitled "The Value of Witness to the Miraculous," will also appear.